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AUTHOR Kroll, Philip R.; And Others
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ABSTRACT

Limited research has been conducted on the direct and indirect impact of union-management cooperation (UMC) programs on worker autonomy, work group effectiveness, and worker satisfaction. For this study, a research questionnaire designed to explore these relationships was mailed to four Ohio unions and was returned by 339 members. Workers at facilities with a UMC program were found to experience slightly more worker autonomy. At UMC facilities there were no differences in worker autonomy between participants and nonparticipants of UMC teams. However, program intensity was related to the level of worker autonomy experienced among team members. The presence of a UMC program was not associated with improved work group processes, but the age of the UMC program had a positive association with work group processes. Satisfaction with work, supervision, and coworkers increased with effective work group processes. Worker autonomy was related to satisfaction with work and supervision, but not satisfaction with coworkers. Support for the UMC process increased the likelihood of supervisors involving employees in workplace decisions. Supervisors were also more likely to encourage participation in workplace decisions when workers were trained in problem solving techniques or held jobs which allowed them to control their work pace. Significant improvement in work group processes occurred when supervisors permitted workers to participate in workplace decisions. (Contains 11 references.) (Author/YLB)

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UNION–MANAGEMENT COOPERATION: A PROCESS FOR INCREASING WORKER AUTONOMY AND IMPROVING WORK GROUP EFFECTIVENESS?

Philip R. Kroll
Agricultural Technical Institute
The Ohio State University
and
Stephen J. Havlovic and
Gervase Bushe
Faculty of Business Administration
Simon Fraser University

WP-008

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ABSTRACT

Limited research has been conducted on the direct and indirect impact of union-management cooperation (UMC) programs on worker autonomy, work group effectiveness, and worker satisfaction. A research questionnaire designed to study these relationships was returned by 339 members of four Ohio unions. Workers at facilities with a UMC program were found to experience slightly more worker autonomy. At UMC facilities there were no differences in worker autonomy between participants and nonparticipants of UMC teams. However, program intensity was related to the level of worker autonomy experienced among team members. The presence of a UMC program was not associated with improved work group processes, but the age of the UMC program had a positive association with work group processes. Satisfaction with work, supervision and coworkers increased with effective work group processes. Worker autonomy was related to satisfaction with work and supervision, but not satisfaction with coworkers. Support for the UMC process increased the likelihood of supervisors involving employees in workplace decisions. Supervisors were also more likely to encourage participation in workplace decisions when workers were trained in problem solving techniques or held jobs which allowed them to control their work pace. Significant improvement in work group processes occurred when supervisors permitted workers to participate in workplace decisions.

Union-Management Cooperation: A Process for Increasing Worker Autonomy and Improving Work Group Effectiveness?

Much has been written about the potential benefits of union-management cooperation (UMC), e.g., increased labor productivity, better quality of work life, and improved product quality (Gershenfeld, 1987). Some see these work changes as necessary for American industry to remain competitive in a global market place (Marshall, 1987; Lawler, 1986; Herrick, 1990). Yet, little empirical research has focused on the impact of the cooperative programs on worker autonomy and improving the ability of work groups to effectively resolve work related problems.

Hoerr states that worker participation "... promises workers autonomy over their jobs but also threatens their old ways of working" (1989, p. 56). The impact of worker autonomy on several key human resource outcomes is seen as important. Per Job Characteristics Theory (Hackman & Oldham) increased worker autonomy can contribute to: high internal work motivation; high quality work performance; high satisfaction with the work; and low absenteeism and turnover (Baron, 1986, p. 97). These outcomes are in part the reason why many firms and unions have agreed to be involved in UMC initiatives.

The impact that worker participation programs have on worker

autonomy remains uncertain. It is suspected that for many programs the influence on autonomy is negligible since participation teams are only permitted to make suggestions to management who in turn can veto or delay action (Havlovic & Kroll, 1990). However, some participation processes actually attempt to empower the workers, e.g., the Saturn Corporation plant in Spring Hill, Tennessee. Even more traditional plants have in some cases given workers the ability to correct problems while temporarily stopping production, permitting direct contact with suppliers in order to improve the quality of incoming materials, and allowed workers to determine their own work assignments (Scobel, 1974; Lawler, 1986; Lawler, 1992).

We believe that cooperative programs with joint labor-management steering committees and/or participation teams can empower work groups on the shop floor and in the field. This will lead to more effective decision making as work groups are granted the authority to resolve the problems associated with their work. We would anticipate UMC processes to have the potential to increase a work groups ability to resolve problems associated with (a) tools and equipment, (b) work pace, (c) product or service quality, (d) suppliers, (e) customers, and (f) staffing. This approach is reflected by the philosophies of some of the firms opting for participation processes, e.g., Honeywell and Saturn (Lawler, 1986; Lawler, 1992).

Participation teams that meet often, discuss work related issues, and

are part of a process which has become institutionalized are expected to significantly impact the autonomy of the individual worker as well as the effectiveness of the work group. This relationship is anticipated to be moderated by the level of support for the participation process by local management, local union officials, and local union members. A decision by any of these parties to reduce or eliminate involvement in the cooperative process would impact the participation teams directly and lead to a reduction in work group effectiveness and worker autonomy.

We expect a secondary outcome of effective worker participation process to be improved worker satisfaction (Herrick, 1990). This is particularly important since prior research has shown that absenteeism and turnover are significantly lower when workers have high job satisfaction (Baron, 1986). We anticipate that the effectiveness of work groups and the level of worker autonomy will impact job satisfaction. In addition, both worker autonomy and work group effectiveness should lead to increased satisfaction with supervision and coworkers.

In sum, UMC efforts can influence worker autonomy and work group decision making. Workers having increased autonomy and/or belonging to effective work groups will experience higher satisfaction with work, supervision, and coworkers.

HYPOTHESES

H_{1a}: Workers will experience increased autonomy if they work at a facility with a UMC initiative;

H_{1b}: Workers involved in participative teams will experience increased autonomy compared to non-team members at facilities with a UMC initiative;

H_{1c}: Workers involved in union-management teams will experience increases in autonomy as a function of meeting frequency, program intensity, and program age;

H_{2a}: Work groups will be more effective in solving work related problems if they are located at a facility with a UMC initiative;

H_{2b}: Work groups at facilities with a UMC initiative will be more effective in solving work related problems as a function of meeting frequency, program intensity, and program age;

H_{3a}: Employee satisfaction with work will increase with higher autonomy and/or work group effectiveness;

H_{3b}: Employee satisfaction with supervision will increase with higher autonomy and/or work group effectiveness; and

H_{3c}: Employee satisfaction with coworkers will increase with higher autonomy and/or work group effectiveness.

Training and technology are also seen as an important moderating variables. Unless workers receive training in the areas of verbal communication and problem solving, the ability of the participation teams to impact work group effectiveness will be limited. Specific quantitative skills training such as statistical process control (SPC) is also seen as having the potential to affect the participation process. In addition, unless the technology

of the workplace allows the workers to control their pace of work and/or to make alterations to the work process their will be little opportunity for direct worker involvement.

METHOD

We developed and mailed a research questionnaire to a stratified random sample (n=1,000) of Communication Workers (CWA), Automobile Workers (UAW), Rubber Workers (URW), and Steel Workers (USW) in Ohio. In addition, we conducted interviews concerning union-management cooperation UMC initiatives with regional officers of the UAW, USW, CAW, and URW. We also visited several locals within each union (participative and nonparticipative locations).

Regression analysis was used to test our hypotheses. Summation scales were utilized to measure each of the endogenous variables. Worker autonomy was measured with a four item scale developed by Beehr, 1976 (e.g., "My job allows me to make a lot of decisions on my own"). Work group effectiveness was assessed with the seven item "Group Processes" scale developed by Taylor and Bowers, 1972 (e.g., "To what extent does your work group or department make good decisions and solve problems well?). The Job Descriptive Index (JDI) developed by Smith et al., 1969 was used to measure satisfaction with work, (e.g., "Gives sense of accomplishment"), satisfaction with supervision (e.g., "Around when needed"), and satisfaction with

coworkers (e.g., "Stimulating"). Participation in workplace decisions was measured with a two item participation sub-scale from the Michigan Organization Assessment Questionnaire (e.g., "My supervisor encourages subordinates to participate in important decisions").

The exogenous variables were a combination of summation scales (e.g., participation program intensity), continuous (e.g., age of participation program), and dummy coded variables (e.g., trained in problem solving techniques). UMC program intensity was measured with a summation scale assessing the frequency that a UMC team member's group discussed social, safety, quality, productivity, equipment, and staffing issues. UMC process support was assessed with a five item summation scale measuring the support of local management, corporate management, local union officials, local union members, and the national union. Control of the work pace was measured using a modified two item summation sub-scale from the Michigan Organization Assessment Questionnaire (e.g., "My job allows me to control my own work pace"). The internal reliability (coefficient alpha) for each summation scale was assessed.

RESULTS

From the 1,000 questionnaires which were mailed 339 were completed and returned. This response rate of 33.9% was in the anticipated 30% to 40% range (based on our prior experiences with mailing questionnaires to

workers' homes). 79.0% of the respondents reported that their place of employment had a UMC program.

The summation scale reliabilities and variable correlations are shown in Table 1. All the summation scales were reliable with coefficient alpha values of .840 or higher in all cases except program intensity which achieved an acceptable .727 alpha level. Worker autonomy was significantly correlated with the presence of a UMC program, program intensity, work group processes, and satisfaction with work, supervision and coworkers. Work group processes were positively related to program intensity and program age as well as worker autonomy. Satisfaction with work was significantly correlated with UMC program age and work group processes. Satisfaction with supervision was related to program intensity, program age, work group processes, and satisfaction with work. Satisfaction with coworkers was significantly correlated with meeting frequency, program intensity, program age, work group processes, and satisfaction with work and supervision.

Regression analysis revealed a significant ($p<.05$) relationship between UMC and worker autonomy (see Table 2), but the amount of variance accounted for was extremely small (1.5% after adjusting for shrinkage).[1] UMC team members did not experience greater levels of autonomy when compared to non-team members at facilities with a UMC initiative. The

[1]No significant differences were found between the four unions on the level of worker autonomy experienced.

Table 1
Correlations and Reliabilities

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	Worker Autonomy	.843 (339)									
(2)	UMC Program	.132[b] (332)	NA								
(3)	Team Member	.015 (262)	.004 (264)	NA							
(4)	Meeting Frequency	-.160 (83)	-.039 (83)	.160 (83)	NA						
(5)	Program Intensity	.381[a] (83)	.160 (83)	.085 (81)	-.378[a] (77)	.727 (85)					
(6)	Program Age	.082 (254)	.039 (255)	.175[a] (252)	.047 (84)	.043 (84)	NA				
(7)	Work Group Processes	.491[a] (322)	.087 (320)	.100 (255)	-.156 (78)	.357[a] (80)	.216[a] (245)	.840 (327)			
(8)	Satisfaction with Work	.520[a] (312)	.025 (309)	-.055 (245)	-.196 (77)	.174 (78)	.237[a] (235)	.369[a] (300)	.855 (316)		
(9)	Satisfaction with Supervision	.462[a] (317)	.054 (315)	.096 (250)	-.164 (78)	.365[a] (81)	.154[b] (242)	.525[a] (307)	.394[a] (308)	.911 (321)	
(10)	Satisfaction with Coworkers	.213[a] (316)	-.008 (314)	.011 (250)	-.227[b] (76)	.298[a] (77)	.238[a] (241)	.505[a] (308)	.368[a] (305)	.372[a] (314)	.912 (320)

[a]p<.01 [b]p<.05 NA = Not Applicable (*) = Sample Size

Table 2
Regression Results for Worker Autonomy (Standardized Solution)

	Dependent Variable = Worker Autonomy		
	(1)	(2)	(3)
UMC Program	.135[b]		
Team Member		.025	
Meeting Frequency			-.065
Program Intensity			.318[a]
Program Age			.072
F Value	5.726[b]	.163	3.279[b]
R^2	.018	.001	.122
Adjusted R^2	.015	----	.085
Sample	309	256	75
	Full	UMC Only	Team Members Only

[a] $p<.01$ [b] $p<.05$

regression analysis limited to UMC team members showed that worker autonomy did not vary significantly as a function of meeting frequency or program age. However, program intensity was associated with the level of autonomy experienced by team members. The results show some support for hypotheses H_{1a} and H_{1c}, but no evidence to support hypothesis H_{1b}.

Group processes were not found to be significantly better or worse at locations with a UMC initiative (see Table 3).[2] In addition, both UMC meeting frequency and program intensity were unrelated to work group effectiveness. However, at facilities with a UMC process, a significant ($p<.05$) amount of the group process variance (12.4% after adjustment for shrinkage) was positively related to the number of years the UMC initiative had been in existence. Hypothesis H_{2a} was not supported, and only the portion of hypothesis H_{2b} dealing with UMC program age was upheld.

Work group processes were found to be positively related to satisfaction with work, supervision, and coworkers (see Table 4). Worker autonomy contributed to satisfaction with work and supervision, but did not influence satisfaction with coworkers. Worker autonomy and work group processes accounted for 25.4%, 31.9% and 24.9% of the variance in satisfaction with work, supervision, and coworkers, respectively after adjustment for

[2]There were also no significant differences between the unions in terms of work group effectiveness.

Table 3

Regression Results for Work Group Processes (Standardized Solution)

	Dependent Variable = Work Group Processes	
	(1)	(2)
UMC Program	.078	
Meeting Frequency		-.024
Program Intensity		.230
Program Age		.325[a]
F Value	1.872	3.925[b]
R^2	.006	.166
Adjusted R^2	.003	.124
Sample	309 Full	63 Team Members Only

[a] $p < .01$ [b] $p < .05$

Table 4
Regression Results for Satisfaction with Work, Supervision, and Coworkers (Standardized Solution)

	Dependent Variables		
	Satisfaction with Work	Satisfaction with Supervision	Satisfaction with Coworkers
Work Group Processes	.159[a]	.398[a]	.526[a]
Worker Autonomy	.412[a]	.255[a]	-.049
F Value	51.312[a]	71.716[a]	51.154[a]
R^2	.259	.323	.254
Adjusted R^2	.254	.319	.249
Sample	296 Full	303 Full	304 Full

[a] $p < .01$

shrinkage.[3] These results strongly support the relationships contained in hypotheses H_{3a} and H_{3b}. Hypothesis H_{3c} was partially upheld as satisfaction with coworkers was related to work group effectiveness but not worker autonomy.

POST HOC ANALYSIS

While UMC processes are consistent with supervisors desiring to involve workers in workplace decisions, most UMC programs do not provide a structure for involvement outside of the UMC team or group. Based on our initial results, we expect that supervisors who allow their workers to participate in workplace decisions will generate more effective work group processes. We also anticipate greater involvement in decision making on jobs which allow the workers to have a large degree of control over their work pace. Similarly, employees trained in problem solving techniques or SPC procedures are more likely to be asked by their supervisor to participate in workplace decisions. At UMC facilities, we expect that the greater the support for the UMC process the greater the opportunity for supervisors to involve workers in workplace decisions.

The correlations and reliabilities for these post hoc analysis variables

[3]The CWA members were found to have significantly ($P<.01$) higher satisfaction with work than the industrial unions in the study. Both the CWA and URW members had higher satisfaction with supervision ($p<.05$) than the UAW or USW members. There were no significant differences in satisfaction with coworkers across the four unions.

are contained in Table 5. All of the summation scales were reliable with coefficient alpha values of .837 or higher. UMC program support and participation in workplace decisions were significantly correlated in a positive direction with all the other variables in the post hoc analysis. The work group processes variable was also correlated with control of work pace and problem solving training.

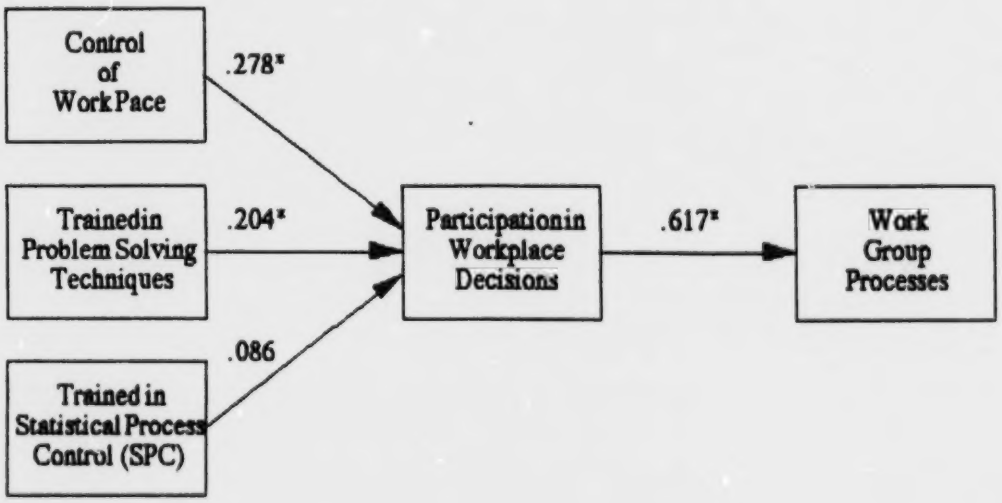
In order to test the causal relationships proposed in our post hoc model we utilized three stage least squares regression procedures. The results shown in Figure 1 substantiate the strong connection between participation in workplace decisions and effective work group processes. In addition, those with more control of their work pace and/or training in problem solving techniques had greater participation in work place decisions. Surprisingly, those who received SPC training were not more likely to be involved in workplace decisions. At UMC facilities (see Figure 2), management, union, and membership support contributed to greater participation in workplace decision making. These two models explained 15.3% and 20.3% of the participation in workplace decision making variance, respectively. 30.1% of the work group processes variance was accounted for by participation in workplace decisions.

Table 5
Correlations and Reliabilities for Post Hoc Analysis Variables

		(1)	(2)	(3)	(4)	(5)	(6)
(1)	UMC Program Support	.850 (268)					
(2)	Control of Work Pace	.138[b] (263)	.842 (337)				
(3)	Trained in Problem Solving Techniques	.168[a] (257)	.092 (319)	NA			
(4)	Trained in Statistical Process Control (SPC)	.164[a] (252)	-.038 (314)	.448[a] (315)	NA		
(5)	Participation in Workplace Decisions	.328[a] (264)	.306[a] (333)	.257[a] (320)	.157[a] (315)	.837 (338)	
(6)	Work Group Processes	.287[a] (256)	.159[a] (321)	.229[a] (311)	.081 (306)	.555[a] (321)	.840 (327)

[a]p<.01 [b]p<.05 NA = Not Applicable (*) = Sample Size

Figure 1
Three Stage Least Squares Post Hoc Results for Participation in Workplace Decisions and Work Group Processes for the Full Sample (Standardized Solution)



System R^2 = .154 Chi Square = 48.677* with 4 d.f.

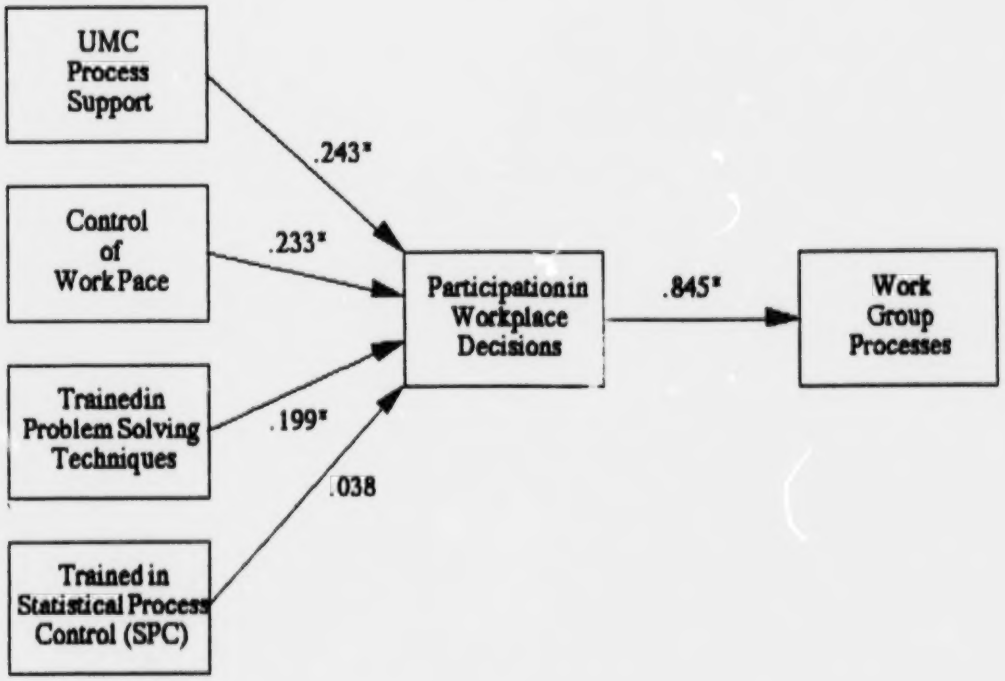
Participation in Workplace Decisions R^2 = .153

Work Group Processes R^2 = .301

Sample Size = 291

*p<.01

Figure 2
Three Stage Least Squares Post Hoc Results for Participation in Workplace Decisions and Work Group Processes for the UMC Only Sample (Standardized Solution)



System R^2 = .227 Chi Square = 59.350* with 5 d.f.

Participation in Workplace Decisions R^2 = .203

Work Group Processes R^2 = .301

Sample Size = 230

*p<.01

CONCLUSIONS

Unions considering engagement in a UMC initiative should anticipate only slight increases in worker autonomy. The small amount of worker autonomy variance accounted for by UMC programs may reflect the limitations of a parallel participative structure to empower workers. Potential team members should not expect to gain increased autonomy compared to non-team members. For team members worker autonomy should be anticipated to increase only with program intensity, and not with meeting frequency or program age. In sum, do not expect much improvement in worker autonomy from the installation of a UMC process.

The labor movement should not expect quick improvements in work group processes from the installation of a UMC process. Work groups were not more effective at work cites which had a UMC initiative. Among UMC team members, it took several years before a significant improvement in their work group processes occurred.

Given the strong relationships between work group effectiveness and the satisfaction scales, it would seem important for unions to explore ways to improve on work group processes. Ways to improve worker autonomy should also be explored as a means of improving job satisfaction and satisfaction with supervision. Perhaps unions can convince management that by increasing worker autonomy and improving work group processes they

will indirectly decrease turnover and absenteeism. "...recent meta-analytical reviews of the relationship between job satisfaction dimensions and absenteeism have uniformly found that the strongest relationship exists between work satisfaction and absence frequency..." (Rhodes, & Steers, 1990, p. 106). Similar research findings have been found for the relationship between job satisfaction and turnover (Baron, 1986).

The post hoc analysis revealed that problem solving training contributed to supervisors allowing workers to participate in workplace decision making. In addition, jobs which gave workers more control of their work pace contributed to more involvement in workplace decisions. Labor unions should encourage training in problem solving techniques and job designs which give workers more control of their work pace in order to increase employee involvement in workplace decisions. While supervisors can permit workers to be involved in workplace decisions with or without a UMC process, our findings clearly indicated that UMC processes with strong management, union, and membership support make it more likely that supervisors will involve their subordinates in workplace decisions. Given the strong positive relationship between participation in workplace decisions and work group processes, there is a significant indirect effect ($P<.01$) of UMC process support leading to improved work group processes.

In sum, in order to increase industrial democracy in the workplace

there are a number of approaches which can be utilized. In non-UMC and UMC environments, increases in work pace control and problem solving training should be pursued followed by encouragement of worker involvement in work related decisions. At UMC facilities, support for the UMC process should be solicited in order to reduce resistance and to reinforce supervisors who allow workers to participate in workplace decisions. Given the current competitive pressures facing the U.S. private sector everyone (i.e., employees, unions, management, and share holders) will benefit from the improvements in work group performance.

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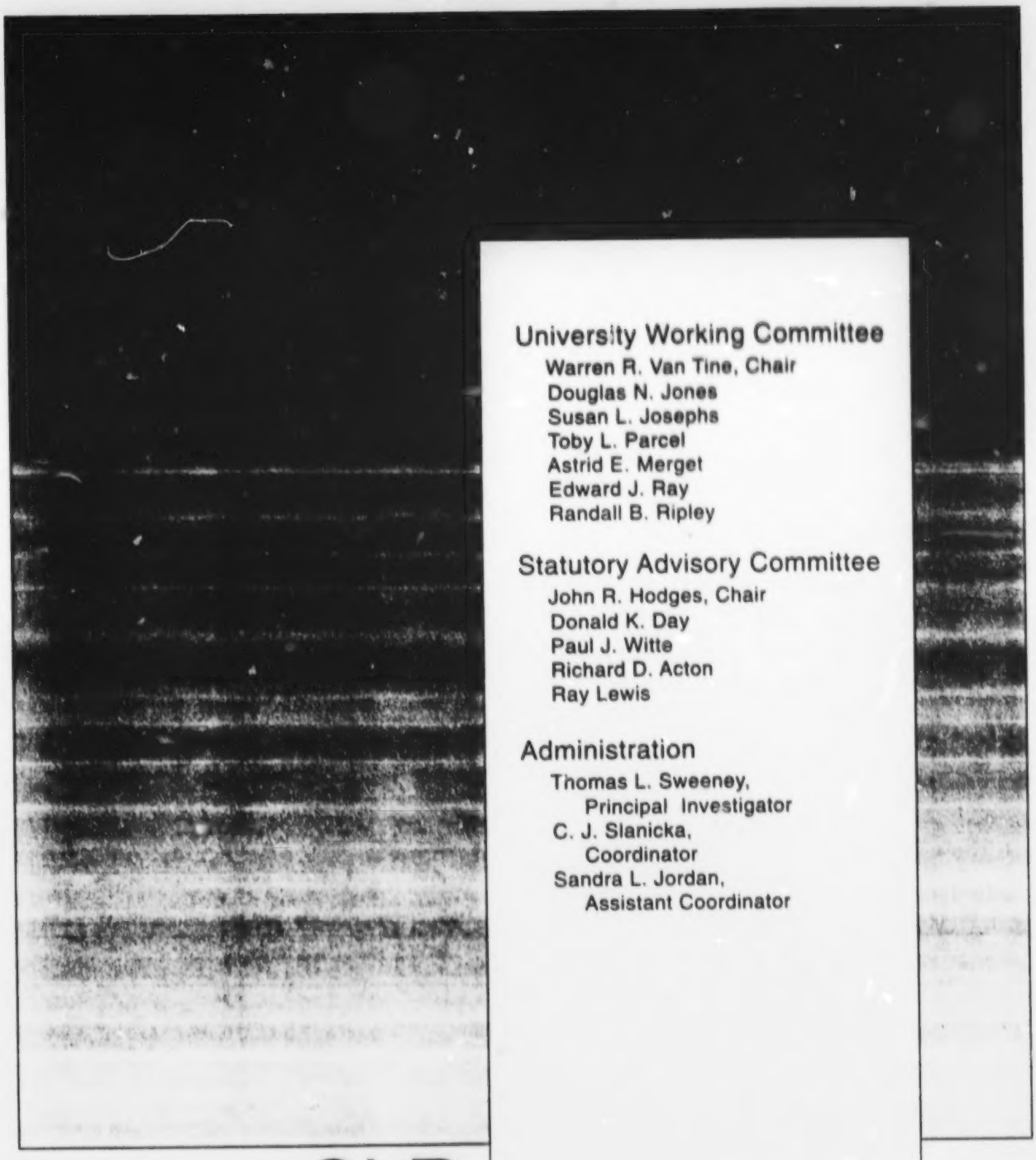

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